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EXAMINER
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BAKER, STEPHEN M

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 07/22/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/895,433

Applicant(s)

PENDAKUR ET AL.

Examiner

Stephen M. Baker

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-29 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 3, 22 and 25 are objected to because of the following informalities:

In claim 3: "on each of the feedback" apparently should be "on the feedback".

In claim 22: "to each of the feedback" apparently should be "to the feedback".

In claim 25: "conent" apparently should be "content".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8-10, 26 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8: "one-way link" apparently should be "link", as there is no disclosure of instructions capable of assuring that the link is not a two-way link and used as such by another program.

In claim 26: "claim 11" apparently should be "claim 23".

In claim 27: "feedback means to allow the content transmission system to indicate missing content to the content reception system" apparently should be "feedback means to allow the content reception system to indicate missing content to

Art Unit: 2133

the content transmission system", as the disclosed "feedback" messages go from the file receiver to the file transmitter.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5, 7, 8, 10, 23 and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,664,091 to Keen (hereafter Keen).

Keen discloses a data file communication system with a selective rejection retransmission protocol for recovery of lost packets. Unnecessary retransmissions are avoided in Keen's system by means of retransmit request processing instructions (Fig. 4 for point-to-point, Fig. 6B for multicast) for at least delaying, and thus potentially obviating the need for, retransmission of a packet indicated as missing by a file receiver (80). Keen's file transmitter (20) is "a content transmission system to transmit a complete set of content via a communication link", and Keen's file receiver (80) is "a content reception system to receive a corresponding incomplete set of content via the

Art Unit: 2133

communication link". A "feedback means to allow the content reception system to indicate missing content to the content transmission system" is provided by a means in Keen's file receiver for forming a file receiver status response packet (SRSP) for indicating those packets (if any) that the file receiver has detected as incorrect as of the time the file receiver received a request for status packet (RQST) from the file transmitter, or an unsolicited status report packet (SRPT) for indicating those packets that the file receiver has detected as incorrect that immediately precede a correctly-received packet (col. 5, line 65 to col. 6, line 10).

Regarding claim 1: Keen's SRSP and SRPT messages can apparently also be generated after all the packets of a file have been transmitted, as necessary and required by packet loss at the end of the file.

Regarding claims 2 and 3: Keen's flowcharts (Fig. 4 for point-to-point, Fig. 6B for multicast) for processing the "feedback" contained in SRSP and SRPT messages includes steps (332-338 in Fig. 4 or 456-468, 456-478 in Fig. 6B) apparently embodying "pre-determined re-transmission instructions" considered in conjunction with the SRSP and SRPT message "feedback", such steps apparently being describable as "policy-driven".

Regarding claim 7: Keen's receiver combines correctly-received transmitted and retransmitted packets to reconstruct the data file.

Regarding claim 8: Keen's transmitter and receivers can each be implemented with instructions of a programmed computer coupled to a modem.

Regarding claim 10: generating of the content of the SRSP and SRPT messages requires Keen's receiver to maintain a "log" indicating missing packets.

Regarding claim 23: using Keen's communication system for multicasting requires "a plurality of content reception systems". Keen's file receiver's generating of the content of SRSP and SRPT messages requires Keen's file receiver to "perform reception verification processing by determining if a portion of the content is missing".

Regarding claims 26 and 28: Keen's transmitter serves to "retransmit content based on the indication of missing content" in responding to SRSP and SRPT messages.

6. Claims 1, 2, 5, 7, 8, 10, 23 and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,727,002 to Miller *et al* (hereafter Miller).

Miller discloses a multicast data file communication system with a selective rejection retransmission protocol for recovery of lost packets. Miller's file server is "a content transmission system to transmit a complete set of content via a communication link", and Miller's file receiver (22) is "a content reception system to receive a corresponding incomplete set of content via the communication link". A "feedback means to allow the content reception system to indicate missing content to the content transmission system" is provided by an acknowledgement bitmap in Miller's system. Large files are divided into blocks, each block comprising a complete set of packets for the block, and correspondingly "a complete set of content" for the block.

Art Unit: 2133

Regarding claims 2 and 8, in a disclosed software implementation, Miller's retransmission handling in the server requires "referencing pre-determined retransmission instructions and the feedback".

Regarding claim 10, Miller's clients maintain a list ("log") of missing packets.

7. Claims 1, 2, 4, 5, 7, 8, 10, 23 and 25-29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,289,012 to Harrington *et al* (hereafter Harrington).

Harrington discloses a software-based system for multicasting items (files) over the internet. All of the packets of a file are transmitted before acknowledgements are returned from a client (col. 7, lines 51-55). An acknowledgement from a client in Harrington's system is in the form of a list of missing packets. Data sent to a client in Harrington's system includes parameters regarding a requested download (col. 8, lines 55-58). These parameters include the number of download packets for the item, the size of each download packet and the total size of the download item, thereby serving as a "manifest" for the download item. File receiver "reception verification" apparently involves comparing received content, in terms of size or number of packets, to the above-described "manifest" information disclosed by Harrington

8. Claims 1-3, 5, 7, 8, 10-13, 15-24 and 26-29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,570,843 to Wolfgang (hereafter Wolfgang).

Wolfgang discloses a software-based system for sending large files from a host computer to one or more subscriber computers via a satellite link. Wolfgang's host computer processes the subscriber feedback using instructions that enforce a policy

Art Unit: 2133

(i.e. "predetermined policy driven re-transmission instructions) for reducing retransmission by determining which packets listed as lost in the subscriber feedback must be retransmitted, based on a threshold related to a packet-level FEC scheme used for the satellite transmissions (col. 4, line 56 to col. 5 line 5).

Regarding claim 1, retransmissions apparently take place after all the packets for an entire file, or 'share' thereof, have been initially sent once (col. 4, lines 9-13).

Regarding claims 5, 8, 11-13, 15, 18 and 24, although Wolfgang initially describes a system with a two-way satellite link, applicability to an environment wherein a second 'back channel' link, used for feedback (the result of performing "content reception verification") in the form of packet acknowledgements sent from the subscribers to the host, can be a telephone line link (presumably lower-bandwidth than the satellite link) is apparently suggested (col. 2, lines 15-16) by the background discussion. Fig. 4 of Wolfgang shows satellite broadcast link data going one-way only, to the subscribers, and a separate back channel 30 is apparently omitted from the drawing. Wolfgang nonetheless apparently suggests a system with a one-way broadcast link to each subscriber and lower bandwidth feedback links to the host.

Regarding claims 10 and 17, Wolfgang apparently also implies applicability to a system wherein feedback to the host from each subscriber is in the form of a list of packets successfully received and of packets lost (col. 2, lines 39-40), which requires a corresponding "log" in the subscriber computers.

Regarding claim 21, transmissions in Wolfgang's system can be said to be "scheduled" and are apparently performed as a variation on a selective reject protocol



Art Unit: 2133

process within a file or within a 'share' of a file, and as stop-and-wait process in-between files or file 'shares', thus there is no "sliding window" aspect to the retransmission protocol.

9. Claims 1-3, 5, 7, 8, 10-13, 15-24 and 26-29 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent No. 6,424,625 to Larsson *et al* (hereafter Larsson).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 11-13, 18-20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keen.

Keen's file receiver link (27), which is coupled to the transmitter via an internet (50), is not described as comprising a one-way link to the receiver and a second, lower-bandwidth link from the receiver. Official notice is given that the usefulness of providing a one way download link, together with a lower-bandwidth upload link, to connect to the Internet, e.g. using combined broadcast-satellite/dialup links for the download/upload connections with an internet, was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Keen's file receiver link (27) by means of a one way

download link, together with a lower-bandwidth upload link, such as a dial-up link. Such an implementation would have been obvious because that the usefulness of providing a one way download link, together with a lower-bandwidth upload link, to connect to an internet was already well known.

12. Claims 4, 11-22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller.

Regarding claims 11-13, 18-20, 22 and 24, in one embodiment, Miller's file server uses, e.g., a high-speed broadcast link (satellite) to send the file to the file receivers (clients 22), however Miller's client links are not described as comprising a one-way link to the client and a second, lower-bandwidth link from the client. Official notice is given that the usefulness of providing a one way download link, together with a lower-bandwidth upload link, to connect to the Internet, e.g. using a combined satellite-download/dialup-upload connection with an internet, was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement any of Miller's client links by means of one way download link, together with a lower-bandwidth upload link, such as a dial-up link. Such an implementation would have been obvious because that the usefulness of providing a one way download link, together with a lower-bandwidth upload link, to connect to an internet was already well known.

Regarding claim 21, in Miller's system, all retransmissions may be considered to occur "at a scheduled time", and Miller's block-boundary-based retransmission system does not use a sliding window.

Regarding claims 4, 14-17 and 25, Miller's file server sends an ANNOUNCE packet that conveys to the clients all the parameters associated with the transfer of the file, by which the clients can determine if they have enough facilities to receive the file. Miller does not mention file size information being included in the ANNOUNCE packet. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to realize Miller's ANNOUNCE packets to include file size information. Such a realization would have been obvious because file size is a parameter that Miller's client presumably would need to consider in Miller's disclosed client process of determining of whether enough facilities to receive the file are available.

13. Claims 11-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington.

Harrington's file receiver link, which is coupled to the file transmitter via an internet, is not described as comprising a one-way link to the receiver and a second, lower-bandwidth link from the receiver. Official notice is given that the usefulness of providing a one way download link, together with a lower-bandwidth upload link, to connect to the Internet, e.g. using combined broadcast-satellite/dialup links for the download/upload connections with an internet, was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Harrington's file receiver link by means of a one way download link, together with a lower-bandwidth upload link, such as a dial-up link. Such an implementation would have been obvious because that the usefulness of

Art Unit: 2133

providing a one way download link, together with a lower-bandwidth upload link, to connect to an internet was already well known.

***Allowable Subject Matter***

14. Claims 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim.

15. Claim 9 would be allowable if rewritten to include all of the limitations of the base claim and to overcome the rejection of the base claim under 35 U.S.C. 112, second paragraph, set forth in this Office action.

***Conclusion***


16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (703) 305-9681. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen M. Baker  
Primary Examiner  
Art Unit 2133

smb